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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,437

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Silvia Janietz

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EXAMINER

PEPITONE, MICHAEL F

ART UNIT

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1796

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,437	<b>Applicant(s)</b> JANIETZ ET AL.	
	<b>Examiner</b> MICHAEL PEPITONE	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/1/05</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 31 is objected to because of the following informalities: Claim does not end in a period (See *Fressola v. Manbeck*, 36 USPQ2d 1211 (D.D.C. 1995) [MPEP 608.01(m)]). The typo “28.1” should be “28.” Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112 and § 101***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 30-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 30: Claim 30 provides for the use of the composition of claim 28 for preparing a thin film, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 30 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e.,

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results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Regarding claims 31-32: Claim 31 provides for the use of the composition of claim 28 for preparing an electronic element, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Accordingly, dependent claim 32 is indefinite.

Claims 31-32 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-20, 22, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Han *et al.* (US 5,378,404).

Regarding claim 17: Han *et al.* teaches a process for forming dispersions of conjugated polymers (1:12-22) comprising preparing a solution of the polymer in a strong acid, and

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introducing the solution into an aqueous surfactant to form a polymer dispersion (1:33-2:25; 3:7-11; 3:22-25; 5:15-21; 6:25-38; 20:15-29).

Regarding claim 18: Han *et al.* teaches separating the dispersed polymer from the aqueous phase, washing the separated polymer (22:15-25), and re-dispersing in surfactant solution (22:40-60).

Regarding claim 19: Han *et al.* teaches ultrasonication (18:57-62; 20:6-7).

Regarding claim 20: Han *et al.* teaches poly(quinolines) (6:63-7:9; 7:14).

Regarding claim 22: Han *et al.* teaches sulfuric acid (3:23).

Regarding claim 25: Han *et al.* teaches about 0.001 wt% to about 30 wt% of polymer (19:10-20).

Regarding claim 26: Han *et al.* teaches about 0.001 wt% to about 100 wt% of dopant {surfactant} (6:47-62; 18:63-19:9).

Regarding claim 27: Han *et al.* teaches particle sizes of less than 100 nm (19:1-5).

Claims 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Han *et al.* (US 5,378,404).

Regarding claim 28: Han *et al.* teaches dispersions of conjugated polymers (1:12-22) having particle sizes of less than 100 nm (1:33-2:25; 3:7-11; 5:15-21; 5:35-37; 6:25-38; 19:1-5).

Regarding claim 29: Han *et al.* teaches water and a miscible organic solvent (3:7-11; 3:46-54; 22:33-50).

Regarding claims 30-31: Han *et al.* teaches a conductive [instant claim 31] thin sheet comprising the dispersed conjugated polymer [instant claim 30] (21:1-31; 24:36-48).

Regarding claim 32: Han *et al.* teaches electroluminescent displays and lights (21:18-25).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han *et al.* (US 5,378,404), as applied to claim 17 above, and further in view of Jenekhe *et al.* (US 4,945,156).

Regarding claims 21 and 23: Han *et al.* teaches the basic claimed process [as set forth above with respect to claim 17].

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Han *et al.* does not teach the conjugated polymer BBL [instant claim 21], or a solution of nitroalkane/Lewis acid [instant claim 23]. However, Jenekhe *et al.* teaches a process for preparing solutions of rigid polymers comprising BBL derivatives [instant claim 21] and solutions of aprotic organic solvents {nitroalkanes} containing Lewis acids [instant claim 23] (2:14-3:15; 7:1-14; 10:63-11:18). Han *et al.* and Jenekhe *et al.* are combinable because they are concerned with a similar technical difficulty, namely the preparation of processable solutions of rigid polymers. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined BBL and nitroalkane/Lewis acids, as taught by Jenekhe *et al.* in the invention of Han *et al.*, and would have been motivated to do so since Jenekhe *et al.* suggests that such a system provides facile decomplexation and regeneration of pure uncomplexed polymers (8:57-62), and is an equivalent alternative means of providing processable solutions of rigid polymers.

Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Han *et al.* (US 5,378,404), as applied to claim 17 above, and further in view of Shelnut *et al.* (US 2002/0110645).

Regarding claim 24: Han *et al.* teaches the basic claimed process [as set forth above with respect to claim 17] wherein a surfactant is employed (20:23-29).

Han *et al.* does not teach the surfactants of instant claim 24. However, Shelnut *et al.* teaches conductive polymer colloidal compositions comprising ethoxylates [instant claim 24] (§§ 28, 35, 40). Han *et al.* and Shelnut *et al.* are combinable because they are concerned with a similar technical difficulty, namely the preparation conductive polymer solutions. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined

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ethoxylates, as taught by Shelnut *et al.* in the invention of Han *et al.*, and would have been motivated to do so since Shelnut *et al.* suggests that such stabilizers provide conductive polymer solutions that are stable during storage and do not aggregate or precipitate out of solution (§ 22, 24), and is an equivalent alternative means of providing conductive polymer solutions.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. See attached form PTO-892.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796  
17-Mar-08

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13-March-08